SYNONYMY OF PENTACANTHOIDES METCALF WITH SINOPHORA MELICHAR (HOMOPTERA: APHROPHORIDAE), WITH A DISCUSSION ON THE TRIBAL PLACEMENT OF THE GENUS

AI-PING LIANG1

¹Department of Entomology, Institute of Zoology, Academia Sinica, 19 Zhongguancun Lu, Beijing 100080, People's Republic of China

Abstract.—The monotypic genus Pentacanthoides Metcalf, 1952, is synonymized with the genus Sinophora Melichar, 1902. A diagnosis is given for the genus. One new combination, S. brunnea (Lallemand), is established. Evidence is given to support the placement of Sinophora in the tribe Aphrophorini.

Lallemand (1922) erected the genus *Pentacantha* for a single new species, *P. brunnea*, on the basis of a single female specimen collected by H. Fruhstorfer in Darjeeling, India. The species is still known only from the unique female holotype. In 1952, Metcalf proposed the replacement name *Pentacanthoides* for *Pentacantha* Lallemand, 1922, nec *Pentacantha* Stål, 1871, Öfv. Svenska Vet.-Akad. Förh. 28: 400, and established the new combination *Pentacanthoides brunnea* (Lallemand). Since then, neither the genus nor the species has been mentioned in the literature, except in the catalogue of world Aphrophoridae of Metcalf (1962).

I have recently examined Lallemand's holotype. A direct comparison of the female holotype of *P. brunnea* (Lallemand) with material of *Sinophora* species, clearly revealed the synonymy of the two genera.

GENUS SINOPHORA MELICHAR

Sinophora Melichar, 1902:113. Type-species: S. maculosa Melichar, 1902, by original designation.

Pentacantha Lallemand, 1922:64. Type-species: P. brunnea Lallemand, 1922, by original designation and monotypy.

Pentacanthoides Metcalf, 1952:228; 1962:73. Nom. nov. pro Pentacantha Lallemand [1922] [nec Pentacantha Stål 1871]. NEW SYNONYMY.

Remarks. Sinophora species can be recognized most easily by their hind tibiae which are armed with 3-6 lateral spurs and the structures of the male genitalia, especially the very small subgenital plates, the very large styles and the very complex aedeagus. Although Sinophora is readily distinguishable from all other spittlebug genera, the differentiation of the species is considerably more difficult. As in most spittlebugs it is dependent upon the characters of the male genitalia.

Metcalf (1952) placed *Pentacanthoides*, for the first time, in the tribe Ptyelini; later in 1962 he treated the genus as a member of the tribe Philaenini. Examination of specimens clearly assignable to the genus indicates closer affinities to the Aphro-

phorini. I am here moving the *Sinophora* from the Philaenini to the Aphrophorini on the basis of the following characters: (1) crown is short and broad, with a distinct median carina; (2) tylus is very short and broad, about twice as broad as median length; (3) ocelli are nearer to each other than to the eyes; (4) antennal segment three is visible; (5) antennal ledges are thin, foliaceous; (6) face moderately inflated with prominent punctures and a median carina; (7) rostrum long, extending beyond bases of hind legs; (8) pronotum with a median carina, the anterior margin usually distinctly and angularly produced, the anterior lateral margins relatively long; (9) forewings with prominent punctures; and (10) the structures of the male genitalia, especially the very small subgenital plates, the very large styles and the very complex aedeagus.

Sinophora brunnea (Lallemand), NEW COMBINATION

Pentacantha brunnea Lallemand, 1922:65. Holotype 9, INDIA 'Darjeeling' (BMNH) [examined].

Pentacanthoides brunneus (Lallemand); Metcalf, 1952:228; 1962:74.

Type material. The holotype female is housed in the Natural History Museum, London. It bears the labels: "India, Darjeeling, Juni, Fruhstorfer leg.; LALLEMAND Coll., Brit. Mus. 1955-832; Pentacantha brunnea Lallemand, V. Lallemand determ. 1914." The specimen is in excellent condition.

Remarks. Originally described in *Pentacantha, brunnea* clearly belongs to *Sinophora* on the basis of its general appearance. This species is still known only from the unique female holotype. It will be necessary to associate a male with this species and study the genitalia to establish the correct status.

ACKNOWLEDGMENTS

I wish to thank Mr. Michael D. Webb of the Department of Entomology of the Natural History Museum, London, UK, for the loan of the holotype of *P. brunnea*, and Dr. Christopher H. Dietrich and Mr. Robert L. Blinn of the Department of Entomology, North Carolina State University, Raleigh, North Carolina, USA, for the loan of specimens of *Sinophora*. I would also like to thank Dr. K.G.A. Hamilton, Biosystematics Research Centre, Ottawa, for reviewing the manuscript.

LITERATURE CITED

Lallemand, V. 1922. Homoptères nouveaux. Bull. Paris Mus. Hist. Nat. 1922:62–68.
Melichar, L. 1902. Homopteren aus West-China, Persien und dem Süd-Ussuri-Gebiete. Ann. Mus. Zool. St. Petersburg 7:76–146, pl. 5.

Metcalf, Z. P. 1952. New names in the Homoptera. J. Washington Acad. Sci. 42:226-231.
Metcalf, Z. P. 1962. General Catalogue of the Homoptera. Fascicle VII. Cercopoidea. Part 3.
Aphrophoridae. Waverly Press, Baltimore, 600 pp.

Received 29 October 1992; accepted 17 February 1993.